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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,790	03/21/2006	Thorsten Cassier	3609	3405

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103 East Neck Road
Huntington, NY 11743

EXAMINER

UNDERDAHL, THANE E

ART UNIT	PAPER NUMBER
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1651

MAIL DATE	DELIVERY MODE
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04/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,790	Applicant(s) CASSIER ET AL.	
	Examiner THANE UNDERDAHL	Art Unit 1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4,6,13,15,18,19,22-28,30-43 and 50-58 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,6,13,15,18,19,22-28,30-32,34-43 and 55-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-33 and 50-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/21/06 and 5/02/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's response, with traverse, to the Restriction/Election requirement filed on 1/28/08 is acknowledged. The applicant elected Group IV which includes claims 30-33 and new claims 50-54. The required election of species is moot with the election of this group.

The Applicant argues that the reference cited does not teach an amended composition presented in claim 57. Specifically the applicant argues that the reference cited in U.S. Patent # 6,165,500 does not teach a composition comprising ascorbic acid, ascorbate oxidase, oxygen, a dehydroascorbic acid formed by the enzymatic oxidation of ascorbic acid by ascorbate oxidase and at least one cosmetic ingredient.

The Examiner would like to point out that the limitation that the dehydroascorbic acid formed by the enzyme is a product by process limitation. As such the process to make the dehydroascorbic acid is given little patentable weight for the composition (MPEP 2113). As already mention in the previous office action mailed 11/23/07 the Examiner did show that US'500 did teach a composition of ascorbic oxidase that inherently utilizes oxygen, a cosmetic ingredient such as phosphate buffer and ascorbic acid. One of ordinary skill in the art would recognize that since the experiments done in the application were done in the open atmosphere since they were preformed on live animals, the composition inherently contains oxygen from the atmosphere. Furthermore if a composition contains oxygen, ascorbic acid and ascorbate oxidase then inherently dehydroascorbic acid will be formed since that is the inherent reaction performed by these three reagents. So the composition of new claim 57 would be known by one of ordinary skill in the art and thus no special technical feature unties these inventions since the composition is already obvious in the art. Since the composition is known in the art PCT rule 13.1 and 13.2 have been met and restriction is proper.

Therefore, the Restriction/Election requirement is therefore made FINAL and the elected species and the claims they include will now be examined on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-33 and 50-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleen et al. (WO 02/39966). This is the publication of PCT/EP01/13025 which is written in German. An English Language equivalent document (U. S. Patent Application Publication # 2004/0064901) is being provided as the translation. The U.S. document will be cited for convenience even though the rejection is over WO 02/39966. See M.P.E.P. § 604.04(a) III and 901.05(d) for more information.

These claims are to a method for the oxidative treatment of keratin comprising the steps of:

- Providing a composition an oxygen-utilizing ascorbate oxidase that catalyzes the oxidation of ascorbic acid, ascorbic acid salts or derivatives
- Adding oxygen to the above composition to form dehydroascorbic (**DHS**) acid via enzymatic oxidation
- After forming the DHS the composition is applied to keratin such as hair
- This composition is allowed to act on the keratin for sufficient time to perform said oxidative treatment
- Rinsing the keratin of the composition

Claim 32 limits that the method is an oxidative post treatment of reduced hair in a process of permanent shaping of the hair. The method above is further limited to a time

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of about 5 minutes to about 25 minutes. Claim 50 limits the amount of ascorbic oxidase and ascorbic acid and their derivatives. Claim 51 limits the pH of the composition from 3.5 to 8. Claims 52-54 further limit the composition to containing a buffer and surfactant (surface active substance) and perfume that produces a foam.

The use of “about” while not indefinite has a larger scope than the numbers that confine the time range of claim 33. As such the limitations of the range being “about 5 minutes to about 25 minutes” are much broader than the numbers specify.

Kleen et al. teach an enzymatic coloring agent for use on keratin fibers which comprise ascorbic acid (paragraph 212) and an ascorbate oxidase (paragraph 386) that inherently utilizes atmospheric oxygen to produce hydrogen peroxide (paragraph 191 and 195, 196) and DHS (paragraph 386, DHS is inherently the product of oxidation of ascorbic acid). The amount of enzyme used is between 0.0001 to 1% by weight (paragraph 200) which when the range is converted to ppm is 1 to 10,000 ppm which encompasses and thus meets the range limitation of claim 50 (see M.P.E.P. § 2131.03 I. Overlap of Ranges). The composition comprises a phosphate buffer at a pH of 7 (paragraph 394) and can contain a surfactant for producing foam aerosol (paragraph 284) as well as a perfume oil (paragraph 340). Kleen et al. teach that the composition of ascorbate oxidase and ascorbic acid is applied to human hair for 30 minutes at room temperature, rinsed and dried (paragraph 394). Kleen et al. teach that their composition is gentle enough to be applied to hair that has already been “permed” or bleached (paragraphs 5, 6 and 10). “Permed” hair, as one of ordinary skill in the art would

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recognize, is hair already subjected to a reducing treatment of ammonium thioglycolate to from curls.

What Kleen et al. does not teach the separate step where the DHS is formed by enzymatic oxidation (claim 30 step b). However as mentioned above, one of ordinary skill in the art would recognize that once ascorbic acid, atmospheric oxygen and ascorbate oxidase are added together in a composition they will inherently produce DHS (paragraph 386). It would have been obvious to someone skilled in the art to change the sequence of adding the ingredients provided the end result of the method is achieved (M.P.E.P. § 2144.06 IV C). In the instant case Kleen et al. teaches that the simultaneous production of DHS with the application of their composition does indeed achieve the same end result of oxidized treatment keratin. Furthermore while Kleen et al. does not teach the amount of ascorbic acid to add to the composition as limited in claim 50. However, M.P.E.P. § 2144.05 II states:

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical.

Absent any teaching of criticality by the applicant concerning the amounts listed in claim 50 for the concentration of ascorbic acid for the composition of claim 32, it would be *prima facie* obvious that one of ordinary skill in the art would recognize that the amounts listed in claim 50 are result effective variables whose concentration is a matter of routine optimization based on the extent of keratin oxidation desired. Since one of ordinary skill in the art would recognize that keratin oxidation by the composition will depend directly

on the amount of ascorbic acid substrate utilized by the ascorbate oxidase to produce the oxidants such as peroxide and DHS to treat the keratin.

Therefore the references listed above renders obvious claims 30-33 and 50-54. In summary no claims, as written, are allowed for this application.

In response to this office action the applicant should specifically point out the support for any amendments made to the disclosure, including the claims (MPEP 714.02 and 2163.06). Due to the procedure outlined in MPEP § 2163.06 for interpreting claims, it is noted that other art may be applicable under 35 U.S.C. § 102 or 35 U.S.C. § 103(a) once the aforementioned issue(s) is/are addressed.

Applicant is requested to provide a list of all copending U.S. applications that set forth similar subject matter to the present claims. A copy of such copending claims is requested in response to this Office action.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thane Underdahl whose telephone number is (571) 272-9042. The examiner can normally be reached Monday through Thursday, 8:00 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached at (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon B Lankford Jr/
Primary Examiner, Art Unit 1651

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